# Issues in Tree Rigging for Aerial Arts:

There are numerous problems in rigging from a tree for aerial arts, this is a brief summary of some of them.

## I. Using a Tree as an Aerial Rigging Point:

- **Dynamic load:**

Aerialists can create sudden shock loads of several times their bodyweight through their movements. Simple climbs are around 2-3 x, small rolls & drops around 4-6 x, big drops anywhere from 6-10 x. These shock loads cause severe stress and damage to the tree and can kill it over time.

- **Load capacity of a rigging point:**

Any point used in aerial rigging needs to have a quantifiable high load capacity: ANSI 2016 minimum standards for Performer Flying Systems in North America are 10X WLL (static load of the performer), 6X characteristic load (average dynamic load, like during wrapping/ posing movements, during an aerial act) and 3X peak load (highest expected load, like the largest drop, during an aerial act). Therefore, any rigging point should have a capacity of no less than 3 times the 6-10 x your body weight caused by the biggest drop you do.

- **Strength of tree and its branch connections:**

These are affected by many variables, all difficult to quantify: age, species of tree, soil conditions (type of soil, moisture level, how compact or loose it is), insect infestations, disease, root systems, bark and circulatory system, internal conditions of the trunk, and weather conditions. These variables all change constantly, even day to day, and signs of damage are often internal or otherwise difficult to see & assess.

Rigging directly to a branch damages the internal circulation of the branch, like a tourniquet, eventually killing the branch and severely weakening its connection to the trunk.

- **Sudden Branch Drop Syndrome:**

Many species of trees are susceptible to this condition – when stressed, a tree will shed large limbs and branches without warning. Several fatalities have been attributed to incidents of Sudden Branch Drop.

## II. Expenses:

**Be prepared to pay a professional arborist & aerial performer rigger for:**

- **Inspection of tree's health:**

A thorough inspection requires several hours to complete and will need to be done frequently.

- **Rigging design:**

The arborist & aerial rigger will have to design a rigging system that minimizes the loads on all parts of a tree to avoid damage to the branches, trunk, and root system. This will involve a complex

system of multiple guy wires above the branch being used and from the trunk to ground anchors to distribute all the loads occurring in different directions.

- **Setting up & taking down rigging with each use:**

Leaving a rigging system in place over the long term can cause further damage to the tree, so the system should be removed after use each time to avoid undue stress to the tree's health.

## III. Public View of the Aerial Arts Industry:

- **Social media:**

With the prevalence of social media, everything we do in aerial arts as students, teachers, and performers is potentially for public viewing and affects how the safety or dangers of aerial arts are perceived.

- **Insurance:**

Every accident reflects badly on the aerial arts industry and negatively affects whether instructors and performers can get insurance and maintain their professions.

- **Professionalism:**

Instructors are responsible not only for their own safety but also the safety of all their students and must set a professional example by following best practices in their work at all times.

Professional circus companies like Cirque du Soleil view tree rigging as an unsafe and unprofessional practice and will not audition or hire artists who show evidence of such practices. Tree rigging may end your career before it even begins.

## IV. Other Solutions:

- **Two words:**

Portable rig.

There are several reputable manufacturers of portable rigs engineered specifically for aerial arts. They are far less expensive than hiring an arborist repeatedly or having to pay for spinal rehab or funeral costs.

Fly safe, my friends!

Liz Cooper